

DATE MAILED: January 14, 2004**FASTENER FOR ATTACHING A BUTTON TO A PIECE OF FABRIC OR GARMENT****FIELD OF THE INVENTION**

[0001] This invention generally relates to the fasteners and more specifically to fasteners for attaching or reattaching a button or the like to a garment or piece of fabric.

BACKGROUND OF INVENTION

[0002] Loose or lost buttons on garments, such as shirts and blouses may result from wear and tear caused by the use of washers and dryers, and commercial pressing equipment. Discovering that a button has become loose, detached or in need of repair is often made at an inconvenient time (e.g., during dressing, at work, traveling, or when the garment is unpackaged from the laundry). At such times, it may be inconvenient or impossible to repair the button using conventional techniques of needle and thread or sewing machine. Even if a needle and thread or a sewing machine is available, many individuals may have difficulties operating these devices due to poor eyesight or coordination, or may be simply reluctant to engage in such activity.

[0003] One device developed to provide a quick remedy for replacing lost or detached garment button without using stitching is a quick fastening button. Quick fastening buttons typically use snap-fit clasps, which generally require some mechanical assistance (e.g., a small hammer) to successfully lock the clasp. The problem with these buttons, however, is that the locking clasps are generally permanently locking and cannot be easily removed from the garment once attached.

[0004] One method device uses a tool that attaches a replacement button to a garment by using a plastic fastener. This tool is typically part of a kit for replacing buttons. The use of this tool is basically a substitution for the conventional sewing of a

button on a garment. It is not practical to carry this tool and toolkit at all times in order to meet all emergency situations.

[0005] Thus, there is a need for a quick and convenient way to replace detached or loose buttons without the use of tools or other mechanical devices.

SUMMARY OF THE INVENTION

[0006] An aspect of the present invention is to provide a button fastener including a base with a bottom surface, and a plurality of legs connected to the base. The plurality of legs may extend downward from the bottom surface of the base. Each leg of the plurality of legs is able to pass through a button hole.

[0007] An aspect of the present invention is to provide a button fastener including a base with a bottom surface, and a plurality of legs connected to the base. The plurality of legs may extend downward from the bottom surface of the base. Each leg of the plurality of legs is able to pass through a button hole and is able to pass through a fabric. The base of the fastener may include a top surface with an optional coating applied to it. Each leg of the plurality of legs are capable of being bent over or pushed back to position near the inner surface of the fabric or garment, in order to firmly secure the button to the piece of fabric or garment. Once the fastener is deployed, a cover may be used to fit over the end of each of the plurality of legs, thus enhancing the overall safety of the fastener.

[0008] An aspect of the present invention is to provide a method of manufacturing a button fastener including the steps of providing a base with a bottom surface and connecting a plurality of legs to the base with each of the plurality of legs extending downward from the bottom surface of the base, and each leg of the plurality of legs being able to pass through a button hole and through a fabric.

[0009] An aspect of the present invention is to provide a method of attaching a button to a piece of fabric, including the steps of placing a button at a selected location on a piece of fabric, placing a fastener, which includes a base with a bottom surface; where a plurality of legs connects to the base and extends downward from the bottom surface of the base with each leg of the plurality of legs being able to pass through a button hole, and through a fabric; guiding each of the plurality of legs through a button

hole; forcing each of the plurality of legs to pass through the piece of fabric; and bending each of the plurality of legs such that it basically lies near a surface of the fabric.

[0010] The foregoing and other features and advantages of the present invention will be apparent from the following more detailed description of the embodiments of the invention, as illustrated in the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] The invention will be described in detail with reference to the following drawings in which like reference numerals refer to like elements wherein:

[0012] FIG. 1 illustrates a front view of a fastener with two legs.

[0013] FIG. 2 illustrates a side view of a fastener with a coating applied to the top surface of the base.

[0014] FIG. 3 illustrates a front view of a tip cover placed on the end of a single leg of a fastener.

[0015] FIG. 4 illustrates a side view of a fastener engaging a button and a piece of fabric.

[0016] FIG. 5 illustrates a side view of a fastener, which has passed through a button and a piece of fabric.

[0017] FIG. 6 illustrates a side view of a fastener, which has secured a button to a piece of fabric.

[0018] FIG. 7 is a rear perspective view of FIG. 6, illustrating the engagement of the fastener legs securing a button to a piece of fabric.

[0019] FIG. 8 illustrates a front view of a fastener with four legs.

DETAILED DESCRIPTION

[0020] Fasteners according to the present invention provide a quick and convenient way to replace detached, loose or missing buttons without the use of tools or other mechanical devices. Such fasteners may be used to attach a loose or detached button to a piece of fabric or garment. Such fasteners may include a base with a bottom surface, and a plurality of legs connected to the base. Each leg of the plurality of legs

extends from the bottom surface of the base. Each leg of the plurality of legs may be designed to pass through a button hole.

[0021] Each leg of the plurality of legs may be designed to pass through, penetrate or pierce a piece of fabric or garment, to which it may be desirable to attach a button. After passing through, puncturing or piercing the piece of fabric or garment, the plurality of legs are bent over or pushed back so as to lie along the inner surface of a piece of fabric or garment, in order to firmly secure the button to the piece of fabric or garment.

[0022] Once the fastener is deployed, a cover may be used to fit over the end of each of the plurality of legs, thus enhancing the overall safety of the fastener. Such cover may be proportional to the dimensions of the leg.

[0023] FIG. 1 illustrates a front view of a fastener 100 with two legs according to an embodiment of the present invention. The fastener 100 includes a base 102, which includes a bottom surface 104 and a top surface 106, and a plurality of legs 108 connected at a proximal end 110 to the bottom surface 104 of base 102.

[0024] In this embodiment, the base 102 is illustrated as a ring, which may provide the advantage of fitting within a recess on a surface of a button. The base 102 may have numerous forms including a ring, a flat or oblong disk, a square or any other suitable geometrical shapes. The different geometrical shapes of the base 102 may be matched to a wide array of geometrically shaped buttons. While the base 102 may be composed of a metallic material, for example silver, it will be understood that it may be composed of other rigid materials such as plastics, ceramics or the like. Furthermore, the base 102 may be clear to permit unobstructed viewing of the button or like item to be attached to the fabric or garment.

[0025] Each leg of the plurality of legs 108 comprises a distal end 112 and a proximal end 110 opposite to the distal end 112. Each leg of the plurality of legs 108 extends downward from the bottom surface 104 of the base 102 and may be connected at a proximal end 110 to the bottom surface 104 of the base 102. A distal end 112 of each leg of the plurality of legs 108 may be filed or shaped such that each leg is able to pass through any of a plurality of holes in a button, and then able to pass through, penetrate or pierce a piece of fabric or garment, of which it may be desirable to attach a

button. Each of the plurality of legs 108 may be composed of a metallic material, for example silver, another malleable material or another suitable material.

[0026] Each of the plurality of legs 108 may be connected to the bottom surface 104 of base 102 by various bonding methods. For example, in one exemplary embodiment the base 102 and plurality of legs 108 are made of a metallic material, such as silver, the plurality of legs 108 may be connected to the bottom surface 104 of base 102 by soldering, brazing or other suitable methods of bonding metallic materials.

[0027] The fastener 100 according to an embodiment of the present invention is illustrated with two legs 108. Alternatively, fasteners with three, four or more legs may be made.

[0028] As illustrated in FIG. 2, the base 102 of the fastener 100 may further include a top surface 106 with a coating 202 applied to it. This coating 202 may be colored or designed to match the color and design pattern of a button to be attached to a piece of fabric or garment. The coating 202 may be applied to the bottom surface of the base of the fastener as well. Alternatively, the coating 202 may be an adhesive material to permit the attachment of a button or other similar component to the fastener 100.

[0029] FIG. 3 illustrates a front view of a tip cover 302 placed on the distal end 112 of a plurality of legs 108 of a fastener 100 of an embodiment of the present invention. The tip cover 302 may be of sufficient diameter and length to fit securely over the distal end 112 of each of the plurality of legs 108. The tip cover 302 enhances the safety of the invention by covering a filed or shaped distal end 112 of each of the plurality of legs 108 of a fastener 100. The safety tip cover 302 may be composed of rubber, plastic, metal, wood or any other suitable material. The safety tip cover 302 may have numerous forms including a ball, a disk, a square or any other suitable geometrical shapes.

[0030] FIG. 4 illustrates a side view of a fastener 100 engaging a button and a piece of fabric. A fastener 100 includes a base 102 and a plurality of legs 108 engages a button 410 with a plurality of holes 412 and a piece of fabric 420 having an inner surface 422 and an outer surface 424. Each leg of the plurality of legs 108 passes through one of a plurality of holes 412 of the button 410 and then passes through, penetrates or pierces both the outer surface 424 and inner surface 422 of the fabric 420. The

fastener 100 may be pushed in the direction of arrow A with sufficient force to cause the legs 108 to pass through, penetrate or pierce both the outer surface 424 and inner surface 422 of the fabric 420. A thumb or a tool may be used to apply force in the direction of the arrow A and thus affix a button 410 to the fabric 420.

[0031] FIG. 5 illustrates a side view of a fastener 100, which has passed through a button and a piece of fabric. The fastener 100 includes a base 102 and a plurality of legs 108 and has engaged and passed through a plurality of holes 412 of a button 410 and an inner surface 422 and an outer surface 424 of a piece of fabric 420. In this embodiment of the invention, the plurality of legs 108 of fastener 100 is equal to two legs. Alternatively, fasteners with three, four or more legs may be made. The arrows B and C indicate a direction that each of the plurality of legs 108 may be bent over or pushed back in order to secure the button 410 to the fabric 420.

[0032] FIG. 6 illustrates a side view of a fastener 100 according to an embodiment of the present invention, which has secured a button to a piece of fabric. A fastener 100 including a base 102 and a plurality of legs 108 where each of the plurality of legs 108 has passed through the plurality of holes 412 of button 410 and also passed through both the inner surface 422 and outer surface 424 of the fabric 420. In this embodiment of the invention, the plurality of legs 108 of fastener 100 is equal to two legs. Alternatively, fasteners with three, four or more legs may be made. Each of the plurality of legs 108 may be bent over or pushed back to lie near the plane of inner surface 422 of the fabric 420.

[0033] FIG. 7 is a rear view of FIG. 6, illustrating the engagement of the fastener legs 108 according to an embodiment of the invention while securing a button to a piece of fabric. Each of the plurality of legs 108 of fastener 100 may be bent over or pushed back to lie near the inner surface 422 of the fabric 420. Each of the plurality of legs 108 may be bent over or pushed back in alternative directions while remaining basically in a similar plane to the inner surface 422.

[0034] FIG. 8 illustrates a front view of a fastener 800, which is similar to the fastener 100 illustrated in FIG. 1, except it includes four legs instead of two legs. A fastener 800 includes a base 102, which includes a bottom surface 104 and a top

surface 106, and a plurality of legs 108 connected at a proximal end 110 to the bottom surface 104 of base 102.

[0035] Each leg of the plurality of legs 108 comprises a distal end 112 and a proximal end 110 opposite to the distal end 112. Each leg of the plurality of legs 108 may extend downward from the bottom surface 104 of the base 102 and may be connected at a proximal end 110 to the bottom surface 104 of the base 102. A distal end 112 of each leg of the plurality of legs 108 may be filed or shaped such that each leg is able to pass through any of a plurality of holes in a button, and then able to pass through, penetrate or pierce a piece of fabric or garment, of which it may be desirous to attach a button. Each of the plurality of legs 108 may be composed of a metallic material, for example silver, another malleable material or another suitable material.

[0036] Although several embodiments of the present invention and its advantages have been described in detail, it should be understood that changes, substitutions, transformations, modifications, variations, permutations and alterations may be made therein without departing from the teachings of the present invention, the spirit and the scope of the invention being set forth by the appended claims.